proof from the LECs to the intervenor/complainant in tariff filing and Section 208 complaint proceedings.[90]

F. The Price Cap Baskets Should Not Be Revised At This Time.

The Commission asks whether the four existing price cap baskets (common line, traffic sensitive, trunking, and interexchange) should be revised based on the development of competition for certain services and how the basket structure should be changed as competition continues to emerge.[91] Except for the creation of certain new services categories in the traffic sensitive basket needed to protect consumers, there is no need to modify the basket structures at this time.[92] Future rulemakings may be required to address whether basket revisions are appropriate for all or some LEC markets after a demonstration of changing marketplace circumstances.[93]

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[90] SFNPRM, ¶ 83.

[91] SFNPRM, ¶ 90. The day after the SFNPRM was released, the Commission created a new video dialtone basket. See n.97, infra. The SFNPRM (¶ 91) also inquires whether, now or in the future, the expanded interconnection tariffs should be brought into price caps. AT&T believes that these tariffs should be included in price caps as a separate service category in the trunking baskets, so that the price cap rules would apply to future rate changes for these elements.

[92] See Section III.H, infra, as to the need for separate service categories in the traffic sensitive basket for the LECs' operator and LIDB services.

[93] The Commission also raises a number of issues concerning "sharing." SFNPRM, ¶ 77. The only circumstance which would warrant a relaxation of sharing requirements -- to

(footnote continued on following page)

The Commission created the LEC price cap baskets and the service categories and bands within the baskets to "replicate the effect of competition" in the exchange market.[94] Thus, the price cap plan was intended to create economic incentives for the LECs to improve their productivity and to offer new services -- incentives that approximate those that would exist in a competitive local exchange market. At the same time, the structure was designed to protect consumers because "[s]ubdividing LEC services into baskets substantially curbs a carrier's pricing flexibility, as well as ability to engage in unlawful cost shifting between the broad groupings of services."[95] Given the lack of competition in the access and local exchange markets, the price cap basket structure should not be revised at this time to afford additional pricing flexibility to the LECs.

(footnote continued from previous page)

permit the LECs to retain the fruits of their productivity -- would be the establishment of a productivity offset (X-Factor) which properly reflects the LEC's productivity. AT&T plans to address this issue further in response to the Fourth Further Notice of Proposed Rulemaking, CC Docket No. 94-1, FCC 95-406, released September 27, 1995 ("X-Factor Notice").

[94] Price Cap Performance Review for Local Exchange Carriers, Notice of Proposed Rulemaking, 9 FCC Rcd. 1687 (¶ 38) (1994) ("NPRM").

[95] LEC Price Cap Order, 5 FCC Rcd. at 6811 (¶ 200); First Report, ¶¶ 29, 379.

Before adopting the LEC price cap plan, the Commission considered a wide variety of basket structures, and after careful deliberation, adopted the four service baskets with their related categories and subcategories.[96] The Commission has made modifications to those baskets and categories only after extensive analysis and deliberations regarding specific markets.[97] In constructing the baskets, the Commission intended carriers to have "little incentive to shift costs between baskets, because changes in prices within one basket do not affect prices in the others. Within the basket, however, the carrier has the incentive to change prices, in order to increase efficiency and maximize its profits."[98]

The Commission's decisions thus represent a balance of competing considerations: incentives for the

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[96] See, e.g., LEC Price Cap Order, 5 FCC Rcd. at 6810-11.

[97] See Expanded Interconnection Order With Local Telephone Company Facilities, 9 FCC Rcd. 5154, 5194-5200 (¶¶ 149-67) (1994) ("Virtual Collocation Order") (reviewing earlier orders that required category expansion in the special access (now trunking) basket to accommodate zone density pricing for special access and switched transport); Transport Rate Structure and Pricing, 9 FCC Rcd. 615, 622-27 (1994) ("Second Transport Order") (realigning the traffic sensitive and special access baskets to create a new trunking basket); Price Cap Performance Review for Local Exchange Carriers, CC Docket No. 94-1, Second Report and Order and Third Further Notice of Proposed Rulemaking, 10 FCC Rcd. 11098 (1995) ("Second Report and Order") (establishing a separate price cap basket for video dialtone services).

[98] NPRM, ¶ 38.

LECs, and protections for consumers. Nothing has occurred since the Commission's most recent revisions to these baskets in the Second Report and Order less than three months ago that suggests this balance should be disturbed at this time.

AT&T agrees that some alterations in the price cap basket structure may be warranted if competition develops.[99] But the fact remains that there is no meaningful facilities-based competition in access and local exchange markets today, nor is effective competition likely to develop any time soon.[100] Thus, at this time, market forces cannot replace the consumer protections provided by existing price cap controls. In the absence of market forces to restrain LEC pricing behavior, any changes to the current price cap structure to provide the LECs additional pricing flexibility would be harmful to customers. Thus, the basic structure of LEC service baskets should be retained to preclude excessive rates and cross-subsidies.

Moreover, because of the complexity of introducing, realigning or consolidating baskets and the impact of such activities on both the LECs' ratepayers and their potential competitors, basket revisions cannot be planned to take place automatically on achievement of

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[99] See Appendix A, pp. 21-22.

[100] See Part I, supra.

particular milestones.[101] Rather, to allow for full consideration of specific, concrete basket revision proposals, the Commission should initiate periodic rulemakings to evaluate whether such revisions are appropriate for all or particular LEC markets.

G. Service Categories Should Not Be Consolidated.

The Commission also asks whether service categories (which limit the LECs' ability to offset rate decreases in one service band with rate increases in other service bands in the same price cap basket) could be consolidated to allow for greater pricing flexibility.[102] For example, the Commission notes that USTA has advocated consolidating the DS1 and DS3 subcategories in the trunking basket.[103]

As the Commission correctly points out, if the lower service band index limits were eliminated (as proposed), then "consolidation of service categories would not provide any additional downward pricing flexibility, but instead would provide [solely] additional upward pricing

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[101] See SFNPRM, ¶ 92. For example, revising the number of baskets or the geographic coverage of any given basket could require reexamining the level at which the productivity offset or "X-Factor" in the price cap formula is set. See LEC Price Cap Order, 5 FCC Rcd. at 6812 (¶¶ 209-10).

[102] SFNPRM, ¶ 93.

[103] SFNPRM, ¶ 94.

flexibility by creating 'headroom' for services that are in the same service category with services for which the LECs have lowered their rates."[104] Given the lack of effective competition in the access and local exchange markets, allowing the LECs any additional pricing flexibility to increase their rates is detrimental to all of the Commission's major policy objectives.[105] Thus, LEC service categories should not be consolidated to grant LECs increased upward pricing flexibility.

It may, however, be necessary to reevaluate the composition of service bands as the relative competitive status of LEC services changes. Within the traffic sensitive and trunking baskets, the Commission grouped similar services in service bands for the purpose of limiting "the LECs' ability to shift costs between services in a potentially anticompetitive manner."[106] As the Commission explained:

> "We created separate service categories in the price cap plan to group together services with high cross-elasticities of demand. This limits the LECs' ability

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[104] SFNPRM, ¶ 94.

[105] See SFNPRM, ¶ 1.

[106] First Report, ¶ 379. In particular, the Commission, incorporated "the various flat-rated transport service offerings into the corresponding special access service categories . . . [to constrain] . . . the LECs' ability to offset lower DS3 . . . rates with higher DS1 . . . rates." See Second Transport Order, 9 FCC Rcd. at 625-26 (¶ 22).

> to offset rate decreases for more competitive services with rate increases for less competitive services."[107]

Because the LECs have unlimited pricing flexibility to cross-subsidize among the services within a band, the service composition of bands should be evaluated in light of changing market conditions. Otherwise, if some of the services in a band are no longer competitive with one another, the LECs will be able to offset rate decreases for more competitive services with rate increases for less competitive services. The service bands were created to avoid exactly this kind of consumer harm.[108]

In the First Report (¶ 414), the Commission expressly recognized that it may be necessary to reexamine the composition of baskets and bands, as competition develops in local markets, to guard against anticompetitive

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[107] SFNPRM, ¶ 93.

[108] Bell Atlantic's recent tariff filing, Transmittal No. 827, filed October 11, 1995, which modified its Directory Assistance and Information surcharge rates, is an example of this phenomena. Bell Atlantic's Directory Assistance services now face some competition, whereas White Pages information does not. In Transmittal 827, Bell Atlantic restructured its Directory Assistance service by establishing term pricing plans and lowering rates for this service. At the same time, Bell Atlantic increased its information surcharge rate, so that there is no aggregate change in Bell Atlantic's revenue stream from its information service band. Id., p. 1-4. Bell Atlantic was able to shift the cost recovery from a more competitive service to a non-competitive service only because both of these services, which have developed different competitive characteristics, remain in the same service band.

cross-subsidization. Thus, the Commission should evaluate proposals to realign services within the service bands or to consolidate service bands, based on a showing of major changes in the competitive characteristics of the services that would be affected and whether the proposed modification would protect ratepayer interests.

H. New Service Bands For Operator Services, LIDB and Operator Call Completion Services Should Be Created In The Traffic Sensitive Basket.

The Commission asks whether "a new service category [should] be created in the traffic sensitive basket for . . . operator transfer service [0- transfer] and line status verification," as proposed in the Operator Services Notice.[109] Alternatively, the Commission asks whether operator services should be combined with others in the traffic sensitive basket, such as, for example, Billing Name and Address ("BNA").[110] The SFNPRM also inquires as to the

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[109] SFNPRM, ¶ 96, citing Treatment of Operator Services Under Price Cap Regulation, 8 FCC Rcd. 3655 (1993) ("Operator Services Notice"). "Operator transfer" occurs when a LEC operator receives a 0- interLATA call and the LEC transfers the call automatically to the IXC selected by the caller. "Line status verification" occurs when the operator checks the line for an IXC operator to determine whether it is busy or out-of-service and interrupts if it is busy and an emergency exists. Id.

[110] SFNPRM, ¶¶ 97-98.

proper price cap treatment for both operator-related and directory assistance-related call completion services.[111]

Currently, there is no specific rule mandating the classification of LEC operator services. Thus, price cap LECs have accorded those services widely disparate treatment.[112] The Commission tentatively concluded in the Operator Services NPRM that the current treatment provides the LECs an unwarranted ability to raise rates for these operator services relative to their other traffic sensitive or interexchange rates.[113] This is also the case with the

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[111] SFNPRM, ¶¶ 99-102. "Operator-related call completion" service is the automated handling of calling card, third party, collect calls or live operator assistance. Id., ¶ 99. "Directory assistance-related call completion" occurs when the carrier completes the call for the end user immediately after providing the directory information. Id., ¶ 100.

[112] Some carriers have incorporated those rate elements in their interexchange baskets (i.e., Bell Atlantic, BellSouth, NYNEX (line status verification service), Pacific Bell and Southwestern Bell). Others have included these services in the information category of the traffic sensitive basket (i.e., GTE, SNET (line status verification service) and United). And still others have assigned them to the local transport category in the trunking basket (i.e., Ameritech (operator transfer service), NYNEX (operator transfer service) and SNET (operator transfer service)).

[113] See Operator Services Notice, 8 FCC Rcd. 3655 (¶ 4). The LECs' ability to adjust their access rates in this manner is illustrated by NYNEX's 1992 annual access tariff filing. There, NYNEX proposed increases of up to 47 percent in its rates for line status verification access service which that carrier had included in the interexchange basket, and reductions of up to 50 percent for the "corridor" services NYNEX offers directly to end users in competition with IXCs.

LECs' Line Information Data Base ("LIDB") services, which IXCs depend upon for validation of the LECs' joint use calling cards.[114] To address both these problems, the Commission should establish separate categories in the traffic sensitive basket for operator services and for LIDB, and apply a five percent upper banding limitation to those rates to "ensure that operator services [and LIDB access] customers as a whole will not experience large price increases" for these offerings.[115]

In addition, operator-related call completion services should be included in the operator services band proposed for the traffic sensitive basket, because they depend on use of the LECs' operator services. Similarly, directory assistance-related call completion services should be placed in the information service band, because this

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[114] Most LECs have included LIDB services in the trunking basket's high capacity/DDS category, and United and Centel have included LIDB in the traffic sensitive basket's local switching category. Bell Atlantic, BellSouth and U S WEST have increased their per-query LIDB rates by 30, 18 and 14 percent, respectively, over the level established by the Commission only two years ago. See Local Exchange Carrier Line Information Database, 8 FCC Rcd. 7130 (1993); Bell Atlantic Transmittal No. 644, filed April 1, 1994; BellSouth Transmittal No. 247, filed December 15, 1994; and U S WEST Transmittal No. 596, filed February 17, 1995. If the LECs' LIDB services remain in the trunking basket or in the traffic sensitive basket's local switching category, LECs will continue to have similar opportunities to increase their LIDB rates.

[115] Operator Services Notice, 8 FCC Rcd. 3655 (¶ 4).

service requires access to LEC directory listings.[116] This treatment will ensure that the LECs are not able to impose undue rate increases for these services.

CONCLUSION

For the reasons stated above, the Commission should not relax LEC price cap rules in anticipation of the emergence of competition in access and local exchange markets. Rather, the Commission should assure that the preconditions for competition are effectively implemented.

Respectfully submitted,

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December 11, 1995

[116] Directory-assistance call completion should not be combined with BNA, because BNA relies on a different database than that used for directory assistance.

APPENDIX A

APPENDIX A

AN ANALYSIS OF THE FCC'S PROPOSAL FOR STREAMLINED REGULATION OF LEC ACCESS SERVICES

by

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December 5, 1995

I. INTRODUCTION

The FCC's Second Further Notice of Proposed Rulemaking ("Notice") outlines a system of price cap regulation for LEC access services, and proposes procedures whereby these regulations would be streamlined in response to the progressive emergence of competition. Unfortunately, the proposal is flawed as a matter of economic logic, and therefore unlikely to further the pro-competitive objectives of the FCC. On the contrary, it provides the LECs with ample opportunities to exercise, extend, and further entrench existing monopoly power.

The most fundamental flaw in the proposal is that it treats the individual components of access as if they were separate, unrelated services. In particular, the FCC would confine its analysis of competitive intensity to the product markets for each service component, considered one at a time in isolation. This approach ignores the fact that market power over an intermediate "bottleneck" service may be exercised elsewhere in a vertical chain of complementary intermediate products. The appropriate form of regulation for any component service depends critically on the competitive characteristics of all other complementary component services, especially where one or more of these complementary components may

be a bottleneck monopoly. In this respect, the task of streamlining the regulation of the LECs is not at all comparable to the task of streamlining the regulation of long distance carriers (which do not hold bottleneck monopolies in complementary services), such as AT&T.

As explained below, the FCC has also proposed excessively broad definitions of the relevant geographic and product markets. This creates a substantial risk that streamlined regulation will enable the LECs to exploit market power over sizable segments of the FCC's "markets."

Finally, the FCC has failed to propose sufficiently rigorous and adequately demanding criteria for assessing the competitiveness of individual access services. Although the Notice spells out some important preconditions for competition, it does not go far enough. An appropriate set of criteria would codify not only a more exhaustive set of competitive preconditions, but would also set forth standards by which to evaluate the roles of potential entry, resale competition, and market conduct. Any procedures adopted by the FCC should also recognize explicitly that evidence on competitive activity can be extremely misleading as long as regulators continue to force the LECs to diverge from cost-based pricing.

Many of the problems associated with the FCC's proposal could be resolved by using more appropriate definitions of the relevant product and geographic markets, by imposing more demanding and explicit criteria for evaluating competitive intensity, and by designing an alternative plan for progressively streamlining regulation that explicitly recognizes the interdependencies of complementary competitive and non-competitive services. One promising alternative plan would institute a system of comprehensive price caps, applicable to all service components and bundles of components. Another advantageous approach would make use of a structural remedy. Both are discussed below.

The remainder of this report is organized as follows. Section II discusses strategies for assessing the intensity of competition, including the definition of relevant markets, and the criteria for competitiveness. Section III considers strategies for streamlining regulation in response to emerging competition. Section IV concludes.

II. STRATEGIES FOR ASSESSING THE INTENSITY OF COMPETITION

As recognized in the Notice, reduced regulation of interstate access prices should not occur until the affected services are demonstrably competitive. Since it is entirely possible that one access service component might be competitive while another is not, or that an access service component might be competitive in one geographic area but not in another, it is essential to begin any analysis by identifying relevant markets. Once these markets have been identified, the FCC should apply clear, quantitative metrics of competition to determine whether regulatory relief is warranted.

A. Relevant markets

1. Product boundaries

In the Notice, the FCC proposes to define the relevant product markets by using existing definitions of current service categories within access baskets. In effect, this amounts to defining separate product markets for distinct service components, rather than for integrated services. This approach has several shortcomings.

First, the FCC's approach to product market definition fails to account for the potential effects of price discrimination in a reduced regulatory environment. In particular, this approach does not establish product markets that are based on customer characteristics (aside from geographic location) which might be used as a basis for price discrimination. It is conceivable, for example, that competition might develop in the provision of switching services to large customers, but not in the provision of these same services to small customers. Nevertheless, the competitive criteria spelled out in the Notice might enable a LEC to obtain complete regulatory relief for switching, even though the LECs would have an incentive to charge different margins over cost based on customer size.[1] This would permit them to meet competition for large customers while exploiting market power over smaller customers.

[1] LECs could accomplish this by offering quantity discounts that exceed cost differentials. For switching in particular, some evidence indicates that actual volume-related cost differentials, if any, are small.

The feasibility of this potential LEC strategy depends in large part upon the competitiveness and efficiency of resale.[2] Under certain restrictive circumstances, the potential for resale reduces the LECs' opportunities to charge different markups over cost for different customers. These circumstances include:

(i) the ability to transfer the subject service component between customers,

(ii) the absence of significant costs associated with resale transactions,

(iii) the absence of regulatory or contractual restrictions that in any way hinder resale,

(iv) the existence of market conditions and/or regulations that effectively preclude discrimination against resellers, either in price or quality, and

(v) the existence of a vigorously competitive resale market.

If the potential for resale, as measured by these criteria, is sufficient to thwart LEC efforts to price discriminate across identifiable classes of customers, it is not necessary to segment markets along this dimension. However, the efficiency and competitiveness of a resale market is a factual matter -- one that must be investigated in the context of each service component before defining the market for the purpose of evaluating overall competitiveness.

Second, the proposed approach to the definition of relevant product markets fails to recognize that individual service components are intermediate services rather than final services. Since the demand for intermediate services is derived from the demand for complete services, the existence of market power over an intermediate service also implies that a firm has effective market power over the final service. This observation has two important implications.

Implication #1: The proposed approach ignores the fact that market power over an intermediate service may be exercised at other levels of the vertical chain. Imagine that some firm monopolizes an essential intermediate service (the "bottleneck"). By virtue of this

[2]Resale affects the level of competition for one set of customers when competition is known to exist for another set of customers. As noted at pages 14-15, this precondition can only be satisfied if there is sufficient facilities-based rivalry; resale promotes facilities-based competition, but does not guarantee it.

monopoly, the firm acquires market power over all final services that require the bottleneck service. If regulation constrains the firm's ability to exercise its market power over the final service through the price of the bottleneck service, the firm can extract its monopoly profits at some other level of the vertical chain. The most obvious strategy would be to bundle the bottleneck service with other service components, charge markups on the bundle, and refuse to provide the bottleneck service on an unbundled basis. If regulators require unbundling, the firm could accomplish the same objective by striving to make the bottleneck less accessible to other vendors, and/or less compatible with the service offerings of other vendors. Thus, even if it is possible to decompose services into individual components, one must ultimately be concerned with the potential exercise of market power over final services. To analyze this potential, one must define relevant product markets for all final services that use any particular intermediate service.

Implication #2: The proposed approach fails to capture the possibility of customer substitution towards technologies that do not require directly comparable service components. Imagine that a final service, A, requires the use of an intermediate service that is supplied by a single vendor. The vendor is an apparent monopolist -- entry is blockaded, so that no other firm can produce the intermediate service. Although one might be tempted to conclude that the vendor of the intermediate service has market power, this conclusion is premature. It is possible that there is some other final service, B, that provides a close substitute for service A, and that makes no use of anything even remotely similar to the monopolized intermediate service.[3] In that case, the availability of service B may provide an effective check on the exercise of market power over service A. If so, it also provides an effective check on the exercise of market power over the intermediate service in question.

[3]In the context of access, there does not currently exist any such technology; nor is it likely that a high quality, cost-effective alternative to the current access technology will emerge in the near future. However, since the FCC is interested in designing a regulatory system to handle emerging competition and associated future developments, it should consider the potential competitive roles of technologies that are not yet available.

Elsewhere, Robert Willig and I have suggested a more effective strategy for defining relevant product markets that recognizes the special properties of intermediate services.[4] Our suggestions remain appropriate in this context as well. In particular, for any regulated, unbundled, separately priced access service component, one begins by identifying all distinguishable end-user toll services that make use of the subject access service. In the current context, the FCC should focus on interstate toll services. For each of these end-user services, one then delineates the relevant market containing the service and its close substitutes. This is a standard exercise; the usual criteria for market definition are, for example, described in the 1992 Federal Antitrust Agency Horizontal Merger Guidelines. The product markets for each final service may be segmented according to whether or not price discrimination across different classes of customers is sustainable. These product market definitions should then be used when analyzing the competitiveness of an access service component. In particular, a specific access service component should not be deemed competitive unless the LEC lacks market power (according to the criteria discussed below) in all identified end-user markets that make use of its access service component.[5]

2. Geographic boundaries

Ordinarily, the identification of appropriate geographic boundaries for a market depends primarily upon two considerations: (a) the extent to which customers are willing and able to substitute product offered at one location for product offered at another location, and (b) vendors' abilities to charge different prices at different geographic locations. To the extent vendors are compelled to charge the same price at different locations, it is usually appropriate

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[4]B. Douglas Bernheim and Robert Willig, "Appropriate Preconditions for Removal of the InterLATA Restrictions on the RBOCs," February 14, 1994, p. 47, Attachment A to AT&T's February 15, 1994 Opposition to Ameritech's Motions for "Permanent" and "Temporary" Waivers from the Interexchange Restrictions of the Decree, United States v. Western Electric Co., Civ. Action No. 82-0192 (HHG) (D.D.C.) ("Bernheim and Willig I").

[5]Since market power over individual access service components confers market power over bundles of components, it is important (in an environment with emerging competition) to regulate the prices of access service components and bundles of components, rather than the prices of service components alone; see pages 21-22.

to regard those locations as residing within the same geographic market, even if customers cannot easily substitute product offered at one location for product offered at the other. This is because, in such a situation, a vendor's incentive to raise price depends on the average competitive response across all of the identified locations.

a. Willingness and ability to substitute

The first consideration argues in favor of defining geographic markets for access services very narrowly, because the demand for access is highly location-specific, and because many access services are not easily transported from one location to another. Residential and business customers usually demand access at specific locations. Thus, although it may be theoretically possible to substitute access services provided at other locations (either by the customer's moving permanently or traveling to and from another location, or by relaying traffic), in practice the degree of substitutability is quite low. Consider the following example. A business that is located on a city block not served by a CAP fiber loop cannot easily substitute the CAP's services for the LEC's services, even if the CAP serves customers in nearby areas. As a result, the LEC may retain significant market power over customers who are not physically adjacent to the CAP's fiber loop, even if those customers are served by the same LEC wire center as CAP-served customers, and even if the CAP competes vigorously within the area it serves.[6]

The implications of this first consideration also vary across different components of access services. For example, if transport is sufficiently inexpensive and available on an unbundled basis, it may be possible to provide substitutable switching services from a variety of geographic locations. However, it may be impossible to substitute the distribution portion of the loop from one location for another location. Thus, it is almost certainly inappropriate to

[6]It is, of course, conceivable that the CAP could extend its facilities into other portions of the city, and this threat may (or may not) limit the LEC's ability to exercise market power over customers who are not currently passed by the CAP's fiber loop. But this possibility does not broaden the geographic scope of the market; it merely implies that the CAP should be treated as a potential entrant into other localized geographic markets.

use identical geographic boundaries to define the markets for all access components, as proposed in the Notice.

b. Price Uniformity

In some circumstances, the second consideration (price uniformity) may argue in favor of defining geographic markets more broadly. Consider once again the hypothetical example described in the preceding paragraph. If the LEC cannot vary access prices across different sections of the city, then competition from a CAP within one section may limit the LEC's incentive to exercise market power within other sections. The efficacy of this competitive check depends upon the CAP's ability to divert business from the LEC within the section served by the CAP, as well as on the volume of traffic in the section of the city served by the CAP, relative to other sections.

Because LEC access prices are generally uniform within sizable geographic areas, it may be tempting to conclude, on the basis of this second consideration, that the geographic scope of the relevant market is typically substantial. Before rushing to this conclusion, however, it is important to examine the underlying causes of price uniformity. In some circumstances, price uniformity may result from technological constraints (e.g. if it is impractical or expensive to charge different prices to customers at different locations). However, in most cases, uniformity is a consequence of regulation. This observation is critically important in the current context, because the FCC's purpose in assessing the competitiveness of access markets is to determine whether relief from price regulation is warranted for such services.

The following example underscores this point. Suppose that an access service is provided subject to price regulation in two areas, A and B. Suppose also that price regulation requires the LEC to charge identical prices in both areas; moreover, in view of this fact, the FCC defines the relevant market to include both A and B. If vigorous competition develops within area A but not within area B, the FCC might nevertheless determine that the "market" satisfies the competitive criteria outlined in the Notice, and remove price regulation. Yet in

the absence of price regulation, the pricing uniformity that justified the aggregation of A and B into a single market may vanish, because the LEC could have the incentive and ability to exercise significant market power in area B, while lowering prices to meet competition in area A.

The preceding discussion shows that, for many access service components, broad definitions of relevant markets are probably inappropriate as matters of economic logic. However, as stated in the Notice, it may be necessary to strike a compromise between economic ideals and practicality. While this is understandable, it is important to realize that a compromise definition of the geographic market necessitates a more stringent standard to determine market competitiveness.

To understand this point, suppose that the FCC selects a particular geographic unit to define relevant markets. Imagine that there is some particular access service for which service at one location is a poor substitute for service at another location (e.g. local loops). There are two cases to consider: (i) prices remain uniform within the geographic unit even after regulatory relief is granted,[7] or (ii) prices do not remain uniform within the geographic unit once regulatory relief is granted.

(i) Price Uniformity Continues. In the first case, the FCC's definition of the geographic market might be justifiable as a matter of economic logic. However, the emergence of competition within some smaller geographic area would not necessarily remove the LEC's incentive and ability to exercise significant market power. Thus, proposals that would trigger regulatory relief throughout a relatively large geographic area (e.g. a state) based on a showing of actual competition in some segment of the geographic market (e.g. a metropolitan area), without also considering the degree of competition elsewhere in the market, are flawed as a matter of economic logic even in the presence of uniform prices. The

[7]This might occur for several reasons. As mentioned in the text, marketing or technological factors might make it expensive or impractical to charge non-uniform prices. Alternatively, regulators might continue to impose the requirement of uniformity even if relief from other regulatory restrictions is granted.

correct approach would be to measure the competitiveness of the market by assessing the competitive response across the entire geographic unit, and noting any significant differences among geographic areas.

It is useful to illustrate this point through an example. Suppose that the geographic unit that is used to define the market consists of two areas, A and B. Suppose that vigorous competition exists in area A, but not in area B. In particular, imagine that a 10% price increase would result in the loss of 30% of the LEC's business in market A, but none of its business in market B. If areas A and B account for identical volumes, then a uniform 10% price increase will result in the loss of 15% of the LEC's business. If area A accounts for 90% of volume, then the LEC would lose 27% of its business following the same price increase; in contrast, if area B accounts for 90% of volume, the LEC would lose only 3% of its business. Thus, the LEC's incentive to raise price reflects the average competitiveness over the region, and this in turn is determined by the relative sizes of competitive and non-competitive areas within the region.

(ii) Price Uniformity Ends. Now consider the second case, i.e. that prices need not remain uniform throughout the geographic unit after regulatory relief is granted. In this case, the FCC's inclusion of both A and B in the relevant geographic market would clearly be inappropriate as a matter of economic logic. If this definition were nevertheless adopted as a compromise between economic ideals and practicality, the standard of competitiveness should be significantly strengthened. This point can be illustrated by considering the same hypothetical example as in the preceding paragraph. As shown therein, when prices are uniform, the LEC would be deterred from raising price significantly as long as the volume generated in area B is not large relative to the volume generated in area A. However, if regulatory relief enabled the LEC to charge different prices in areas A and B, then the LEC would have both the incentive and the ability to exploit market power in area B, no matter how small area B volume is relative to the volume in area A. Consequently, in this second case, it would be inappropriate to grant regulatory relief based on measures of average competition

within the defined geographic "market." Rather, one must insist that competition is pervasive throughout the entire geographic unit before granting regulatory relief.

A reasonable standard of pervasiveness would include the following requirements.[8] Adequate competition (defined in the manner discussed in section B below) must exist for 90% of end-users within the geographic unit that is used to define the relevant market. In addition, the LEC must not be able to discriminate unreasonably in terms of price, quality, terms of interconnection or conditions of service, between those for whom competitive supply is available and those for whom it is not.

B. Measures of competitive intensity

The FCC's proposal does not go far enough in spelling out the criteria needed to assess the intensity of competition. These criteria should be expanded and refined to address the following six areas of concern.

1. Preconditions for competition

In compiling any list of preconditions for competition, it essential to avoid confusing *necessity* with *sufficiency*. Competition for any particular access service component might fail to develop for a variety of reasons, even if all the obvious preconditions are met. Thus, there should be no presumption that actual or potential competition necessarily disciplines the exercise of market power by a LEC, merely because a "check list" of competitive preconditions has been satisfied. In promulgating rules governing the eventual streamlined treatment of access services, the FCC should make this point as explicit as possible.

Before meaningful competition can develop, it is essential to remove the most obvious barriers to competition. Obvious preconditions for competition include the absence of franchise restrictions (which prevent potential competitors from considering market entry), access to conduits and the availability of rights of way (which give competitors the opportunity to build facilities to compete with the LECs), and true number portability and dialing parity

[8]The standard of pervasiveness described here is similar to one that Robert Willig and I proposed in a related context. See Bernheim and Willig I, p. 50.

(which allow competitors to offer services consumers might be willing to accept). The LECs must also make access services available on a fully unbundled basis, providing functionally equivalent interconnection and respecting uniform standards, so that emerging competitors can make appropriate partial use of more efficient facilities from other suppliers, including themselves. Moreover, the applicable regulatory structure must assure that non-competitive service components are available at cost-based, non-discriminatory prices that are consistent with the objective of achieving a competitive outcome. Finally, for reasons discussed below, competition is also more likely to develop when factors that hinder efficient resale and sharing are eliminated.

2. Standards for evaluating potential competition

In some circumstances, potential competition can serve as an effective check on the exercise of market power. Consequently, there are circumstances in which economists appropriately discount the importance of factors such as market share, because they reasonably anticipate that any significant price increase by existing suppliers would precipitate vigorous competition from new entrants. Access services are unusual, however, because (as described below) incumbent LECs are uniquely well-equipped to undermine the development of meaningful competition, even when obvious barriers to entry are removed. Therefore, it is important to apply a much more demanding standard for evaluating potential competition for access services than is used in other contexts.

The LECs' unique position is, in large part, an outgrowth of their roles as suppliers of complementary non-competitive regulated service components. Indeed, for certain essential components of access services (e.g. local residential loops), the LECs remain bottleneck monopolists. A LEC's bottleneck control over these essential service components provides it with many opportunities to handicap rivals in markets for potentially competitive, complementary services and service components by raising prices, reducing quality, providing discriminatory interconnection, or even more potent combinations of these three capabilities. Moreover, price regulation of the bottleneck components generally creates powerful economic

incentives for LECs to use anticompetitive strategies with the objective of leveraging their market power into potentially competitive components.

It is also important to realize that LECs' control over regulated bottleneck services is not the only relevant characteristic that distinguishes them from firms in other industries. Network externalities, combined with the need to make substantial sunk cost investments, may also insulate an incumbent LEC from the effects of potential competition. A network externality exists when the value of using a given service or facility increases with the number of customers who use the same service or facility. Since the purpose of a telecommunications system is to link users, powerful network externalities naturally arise in connection with access services. Thus, to the extent end users initially subscribe to the local network services of an incumbent LEC, these network externalities may help to protect the LEC's market power. If the LEC can raise the costs or reduce the quality of services provided by rivals who must interconnect with its network, the potential for small-scale or niche entry is an ineffective check on the LEC's market power. Although the LEC would not be able to handicap entrants offering complete, stand-alone, alternative networks, such an entry strategy involves enormous sunk costs and risks, especially if all of the preconditions for entry have not been effectively implemented.

For these reasons, a demanding standard for evaluating potential competition must be applied in this context. It is not enough to demonstrate the absence of "conventional" entry barriers. Rather, the facts must clearly justify a prediction that, if regulatory restrictions on access prices were removed, the LEC could not profitably implement a significant price increase for such services because it would lose business to a combination of existing competitors and new entrants.[9] "Clear justification" should require LECs to prove all of the following:

[9]The standard for significance of a price increase is, of necessity, somewhat arbitrary. However, it would be difficult to justify a threshold larger than 10%.